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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
ZHEN, LI B

ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/885,632	ELVING, CHRISTOPHER H.
		Examiner	Art Unit	
		Li B. Zhen	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 October 2005</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-4,7,10-13 and 36-45* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-4,7,10-13 and 36-45* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   1-4, 7, 10-13 and 36-45 are pending in the current application.

Response to Arguments

2.   Applicant's arguments with respect to the claims have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   **Claims 1, 2, 36, 37 and 45 are rejected under 35 U.S.C. 102(e) as being**

anticipated by U.S. Patent No. 6,173,307 to Drews.

5.   As to claim 1, Drews teaches a computer-implemented method for buffering data

[col. 2, lines 60 – col. 3, line 14] in a multithreaded environment [col. 6, lines 20 – 31],

comprising:

reading a buffer index value that identifies a data buffer that was last used for buffering data ["next-ready" marker indicates the next slot to be made available to the consumer; col. 3, lines 20 – 39];

incrementing the buffer index value, locating a buffer array entry that is associated with the buffer index value [A "next-available" marker indicates the next slot available to the producer; col. 3, lines 20 – 39];

determining at a particular time, whether the buffer array entry indicates a particular value [Producers examine the count to determine whether consumers have made one or more slots available; col. 3, lines 39 – 53];

if the buffer array entry does not indicate the particular value at the particular time, then in response to a determination at the particular time that the buffer array entry does not indicate the particular value [determined that a slot is available (block 514), a producer indivisibly increments the next-available marker and examines the old value to acquire a distinct slot (block 520); col. 3, lines 54 – col. 4, line 12], attempting to obtain a lock on a particular data buffer that is associated with the buffer array entry ["producer-completer" mutual exclusion token; col. 5, lines 16 – 44]; and

if the buffer array entry indicates the particular value at the particular time then, in response to a determination at the particular time that the buffer array entry indicates the particular value, incrementing the buffer index value without attempting to obtain a lock on the particular data buffer [increments the "next-ready" marker (block 818), and indivisibly increments the count of slots available to consumers (block 820), stopping as

soon as it encounters a slot marked as "still in-progress" (path 812); col. 5, lines 16 –

45].

6.   As to claim 2, Drews teaches if the attempt to obtain the lock on the particular

data buffer succeeds then updating the buffer array entry to indicate the particular value

[col. 4, line 63 – col. 5, line 6].

7.   As to claims 36 and 37, these are product claims that correspond to method

claims 1 and 2. These claims are similar in scope to claims 1 and 2; therefore, they are

rejected for the same reasons as claims 1 and 2 above.

8.   As to claim 45, this is a system claim that corresponds to method claim 1. This

claim is similar in scope to claim 1; there, this is rejected for the same reason as claim 1

above.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   **Claims 3, 4, 7, 10 – 13 and 38 – 44 are rejected under 35 U.S.C. 103(a) as**

being unpatentable over Drews in view of U.S. Patent No. 6,182,086 to Lomet et al.

[hereinafter referred to as Lomet, cited in the previous office action].

11.   As to claim 3, Drews teaches selecting a particular buffer management structure

from a plurality of buffer management structures [col. 3, lines 39 – 54], wherein said

plurality of buffer management structures are each associated with a set of data buffers

that are used for buffering data to a physical memory unit [col. 4, lines 13 – 23];

wherein the buffer index value is associated with the particular buffer

management structure [col. 3, lines 20 – 39]. Drews does not teach receiving a

connection request from a client and assigning a thread of execution to process said

connection request.

12.   However, Lomet teaches assigning a thread of execution [in a separate process

or thread; col. 17, lines 20 – 36] to process said connection request [At step 60, the

client sends a request to the server; col. 7, lines 28 – 39].

13.   It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to apply the teaching of receiving a connection request from a

client and assigning a thread of execution to process said connection request as taught

by Lomet to the invention of Drews because allows server recovery independent of

client recovery, while client recovery is dependent on the server [col. 6, lines 50 – 54 of

Lomet].

14.   As to claim 4, Drews as modified teaches generating log data in response to a

request for accessing a resource [server force logs replies sent back to clients in

response to client requests as a means for providing a persistent log against which an

application state of a client application can be replayed to enable recovery; col. 6, lines

40 – 55 of Lomet], wherein said resource represents one or more sets of content that are associated with a network server [a resource manager 82 that maintains temporary copies of data pages and application states; col. 8, line 60 – col. 9, line 10 of Lomet]; and

selecting a buffer management structure based on one or more addresses in which said one or more sets of content are stored on said network server [stable database 94 maintains stable versions of the application states (including address spaces) and data objects, and the stable log 96 maintains a sequence of logged operations; col. 9, lines 15 – 23 of Lomet].

15.   As to claim 7, Drews as modified teaches writing log data into said particular data buffer [col. 7, lines 29 – 39 of Lomet].

16.   As to claim 10, Drews as modified teaches maintaining a plurality of data buffers as an array of available buffers [col. 4, lines 13 – 23 of Drews]; and in response to detecting that the particular data buffer contains a particular limited amount of free data space, removing said particular data buffer from said array of available buffers [col. 4, lines 22 – 38 of Drews].

17.   As to claim 11 Drews as modified teaches removing said particular data buffer from said array of available buffers further comprises linking said particular data buffer into a list of ready-to-write data buffers [col. 4, line 63 – col. 5, line 6 of Drews].

18.   As to claim 12, Drews as modified teaches removing said particular data buffer from said array of available buffers [col. 4, line 63 – col. 5, line 6 of Drews]; and storing on a non-volatile storage unit information contained in said particular data buffer [non-volatile memory 78 includes a stable database 94 and a stable log 96....the stable log 96 maintains a sequence of logged operations; col. 9, lines 15 – 25 of Lomet].

19.   As to claim 13, Drews as modified teaches maintaining a plurality of data buffers as an array of available buffers [col. 4, lines 23 – 38 of Drews]; and in response to determining that no data buffer is available in said array of available buffers for storing said log data, requesting a free data buffer from a global list of free data buffers [col. 3, lines 20 – 39 of Drews].

20.   As to claims 38 – 44, these are product claims that correspond to method claims 3, 4, 7 and 10 – 13. These claims are similar in scope to claims 3, 4, 7 and 10 – 13; therefore, they are rejected for the same reasons as claims 3, 4, 7 and 10 – 13 above.

Conclusion

21.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,867,734 to Drews teaches a circular queue that provides a mechanism for producers of fixed-size data items to deliver those items to consumers.

22.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

CONTACT INFORMATION

23.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768.

The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, William Thomson can be reached on 571-272-3718. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Li B. Zhen
Examiner
Art Unit 2194

lbz

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER